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Improving California's Infrastructure Services

The California Infrastructure Initiative

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Introduction and Context

This article builds on the work of Dowall (2000), Dowall and Whittington (2003), and recent discussions concerning Governor Schwarzenegger's proposed Performance-Based Infrastructure Initiative (PBI California) initiative that took place in late January 2008 at a California Foundation on the Environment and the Economy. The retreat included senior advisors and staff of the Governor's Office; California Senate and Assembly members; and stakeholders representing labor, civil engineering firms, environmental interests, and others. The dialogue was wide-ranging and productive, but it indicated that there was no clear overarching agreement on what constitutes "performance-based infrastructure" and how it might be implemented in California. The purpose of this article is twofold: first, to define an overarching policy framework on performance-based infrastructure and, second, to outline how California might launch a series of integrated policy and program initiatives to establish new and innovative approaches for providing California's citizens and businesses with high-quality infrastructure services. Our proposals are based on earlier research, policy dialogue, and experience drawn from other countries and states that have successfully increased infrastructure service delivery. Because this was drafted as a policy "white paper," it does not provide an extensive review of the academic research on infrastructure planning, policy, and the relative merits of alternative institutional arrangements for providing infrastructure services. For a comprehensive survey, see Kessides (2004) and Miller (2000, 2002).

Elements of the approach we propose are frequently labeled with various terms such as *performance-based infrastructure*, *private finance initiative* (PFI); *public–private partnerships* (PPP or P3), or *strategic infrastructure policy*. For the sake of clarity we will refer to our proposal as the California Infrastructure Initiative or CII. Our proposal draws on past research (Dowall, 2000; Dowall & Whittington, 2003) as well as surveys and assessments of international best practices of infrastructure policy, provision, and management. The survey includes the state of Washington, the city of New York, and the province of British Columbia; the governments of Canada, Spain, and the United Kingdom; and the Australian states of New South Wales (NSW) and Victoria.

In a nutshell, the CII is an outcomes-oriented policy framework for infrastructure planning, provision, and management. The overarching goal of CII is to provide customers—citizens, taxpayers, businesses, and other stakeholders—with the most efficient and sustainable level of infrastructure services at the lowest possible life-cycle cost. CII seeks to create efficient and cost-effective infrastructure services. The CII is not about privatization, budget cutting, or public sector employment reduction. It

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is about giving consumers better infrastructure services for their tax dollars or user fees and making sure that California invests wisely in its future.

What is new about the CII? First, CII focuses on infrastructure service outputs, not pipes, lane-miles, or classroom seats. Second, it is customer oriented—aiming to achieve high quality value for money (VFM) infrastructure services. Third, CII looks for the best method for building or procuring infrastructure projects. Fourth, CII makes public and private sector providers and managers of infrastructure more accountable to customers. Fifth, CII can help tap new sources of capital to help finance infrastructure. Sixth, CII is about enhancing innovation, efficiency, risk transfer, and competition in the delivery of infrastructure.

Why does California need CII? There are two clear and compelling reasons. First, the state has an enormous backlog of infrastructure investment needs, estimated to be in the range of $80 billion over the next decade (The California Strategic Growth Plan, 2006).[1] Second, the state faces substantial shortfalls in tax receipts because of faltering economic conditions. Because CII can generate more infrastructure value for the dollar and because it creates opportunities to attract private resources, CII deserves careful consideration.

In broad terms, the CII policy framework operates at four levels: (a) helping to set investment priorities for new infrastructure in ways that meet the strategic development goals of the state; (b) identifying which infrastructure projects are the most effective means for meeting objectives; (c) determining what is the most effective project delivery method; and (d) ensuring that existing infrastructure services are provided efficiently.

The foundation for a CII initiative has already been built. Beginning in 2006, Governor Schwarzenegger ignited California's infrastructure rebuilding campaign. First, he delivered a Strategic Growth Plan (January 2006) to the legislature and the people of California. He provided the vision and leadership to persuade Californians that it was time to reinvest in our old and inadequate infrastructure, and as a result, voters overwhelmingly supported a package of new bond issues in 2006 totaling $43 billion. In his 2008 State of the State Address, the governor announced the establishment of two critical infrastructure policy institutions: The Strategic Growth Council and the launching of PBI California. As proposed, the council should improve interagency infrastructure planning and coordination. It should also better align infrastructure investment proposals with strategic development and sustainability objectives. The Governor's Office is also proposing to form a new institutional mechanism to foster infrastructure investment modeled on successful practices in British Colombia, Ontario, and the United Kingdom. The PBI California, as proposed, focuses on infrastructure procurement and project delivery. This is sensible because, if it is adopted by the legislature, it has the potential of delivering significant pay-offs—more cost-effective and faster delivery of projects, life-cycle costing, VFM invested, and the possibility of attracting private capital for infrastructure investment. Additionally, the CII increases the number of policy instruments available for use to provide infrastructure. It also offers the tools to promote more user-based revenue services. Both these initiatives make sense and, in our opinion, deserve careful consideration.

However, it is our view that the Governor's Office and the legislature need to expand the dialogue to address broader concerns that have been raised by state-level elected officials and key stakeholders, such as how the state's infrastructure investment priorities should be set, especially when trying to balance investments across different sectors such as transportation, education, water, and facilities; determining how state and local agencies can best identify the most efficient types of projects to meet consumer and business demand for services; and how the management of existing infrastructure services can be enhanced to improve productivity and accountability.

The intent of this article is to articulate a more comprehensive concept of performance-based infrastructure, explain the potential benefits of doing so in California, and offer recommendations on how the policy dialogue should proceed in Sacramento and around the state. Much of what is outlined in the article has broad applicability to other states and countries.

An Overview of the California Infrastructure Initiative

The CII framework is based on three key premises: The first is that infrastructure services such as mobility, safe and reliable sources of water, sustainable development, knowledge creation and transfer, and personal security are critical determinants of a society's current and future well-being. High quality infrastructure helps businesses compete for expanded economic opportunities in a globalizing world. It also protects the environment from the threats of climate change and natural and man-made hazards, and creates a socially cohesive and high quality of life. Therefore, governments in California, Canada, Spain, and the United Kingdom are realizing that they must carefully target infrastructure investments to achieve strategic goals.

The second premise is that decisions about infrastructure planning, delivery, and management should be guided by outcome-oriented measures, not input or budget amounts. For example, what will an investment or a project deliver in terms of services to customers, and how do the benefits compare with costs? How are these services valued by customers? What services are demanded the most by customers, and how should scarce public and private resources be allocated to serve the public interest? In all cases, the value of the services produced by the investment should be measured in economic terms so that comparisons can be made across sectors and between alternative projects. The CII framework should also be applied to existing infrastructure services. Are there better methods for managing infrastructure service delivery that will create more attractive performance?

Third, the CII policy framework adopts a flexible and performance-based approach to determining the most efficient method for infrastructure delivery. Should the public sector provide the service or should the private sector? Which approach offers the most VFM? As China's Deng Xiao Ping stated long ago: "It does not matter whether a cat is black or white as long as it catches mice."

By focusing on infrastructure service outcomes metrics, CII provides a meaningful comparison across different types of infrastructure investments. CII offers powerful tools to ensure accountability and creates strong incentives for infrastructure service providers to deliver VFM. It also helps policy makers identify the most effective and efficient means for project delivery, whether it be public or privately provided. What are the common elements of similar initiatives in other best-practice countries?

Effective infrastructure policy consists of four interrelated activities. It is our view that these activities should be coordinated in a flexible and collaborative manner. In California, for example, in some instances, the administration would take the lead, and in other cases, the administration would work with the legislature to set priorities and chart strategic direction. The four activities include the following:

- Setting strategic, programmatic, and capital investment priorities: Engage in a process to identify overarching sustainable growth and development goals and strategies, determine demand, focus investments on desired outcomes, and improve cross-sector infrastructure investment programming and coordination. This step would use rigorous processes for determining the most effective means for meeting strategic goals, such as deciding whether to expand or improve existing facilities or build new facilities to generate critical services.
- Use VFM calculations to select the best delivery method: Build a platform to facilitate deciding on the most efficient method for delivery, such as government provision, P3, or some alternative institutional arrangement. In all cases, carefully analyze alternatives to make sure society is getting the best possible service at lowest cost for both new and existing investments.
- Create centers of excellence to share knowledge and advise state and local governments: Build management capacity by working with state agencies and local governments to provide technical assistance and advice on international best practices. Disseminate best practices, successful experiences, methods to protect the public interest, and provide model contracts.
- Provide a service bureau to perform PPP procurements on behalf of state and local government agencies: Support state agencies and local governments to effectively negotiate complex procurement contracts, and work with state agencies and local governments to bundle small infrastructure projects into multiclient efforts to lower transaction costs and leverage economies of scale.

The following section expands on the CII, reviews the extent to which CII elements are currently used in California, reviews domestic and international best practices of each CII element, and considers whether elements can be implemented independently or collectively.

CII: Current Context and International Best Practices

In this section, we examine the elements in detail. We start by reviewing how California state government addresses each element and then proceed to outline how other governments have implemented each element. As this section illustrates, specific elements of the CII can be implemented individually, in clusters, or as an integrated package.

Setting Strategic, Programmatic, and Capital Investment Priorities

Apart from Governor Jerry Brown's term in the late 1970s, when the Office of Planning and Research (OPR) developed a statewide development strategy (OPR, 1978),

California does not engage in the preparation of strategic development plans, visioning processes, or multisector investment planning. Fortunately, both the legislature and the administration recognize these current shortcomings. The Legislative Analyst's Office (LAO) has pointed out that cross-agency coordination of infrastructure investments is complex because it involves numerous state agencies and legislative oversight committees:

> At least two dozen state entities will be involved in implementing some component of the 2006 bond package. Throughout the package, there are program allocations for purposes that cut across traditional state departmental boundaries. . . . For instance, the new development programs within the housing bond aim to promote urban development, particularly near public transportation. At the same time, the transportation bond provides billions of dollars for transit improvements. As such, without close coordination among the departments administering these funds, the state may miss an opportunity to make both sets of money go further by linking projects and/or timelines. (LAO 2007-08 Budget Analysis, 2007, p. G-27)

The Governor's Strategic Growth Plan calls out the major statewide challenges we face, such as greenhouse gas reduction, congestion relief, flood protection, affordable housing provision, and sustainable land use planning and development. The Governor's Office acknowledges the limits of the current "silo approach" to capital investment planning:

> There is growing awareness among state agencies and departments that they cannot meet the challenges facing them if they continue to operate in isolation: The challenges are too great and the solutions are too multi-dimension to address without a coordinated effort. The state has little direct say in land use planning, since it is a local government activity, but by coordinating infrastructure bond expenditures, grant moneys, and state planning and development activities, state agencies can provide leadership and guidance so that those investments of funds supply benefits that last decades. (Governor's Office, p. 55)

On the legislative side, several important pieces of legislation have been adopted to improve cross-sector coordination and to more closely link investments with statewide strategic development goals. AB 1473 (*California State Assembly, Capital Outlay*, 1999) and AB 32 (*California Global Warming Solutions Act of 2006. AB 32*, 2006) lay the groundwork for more strategic, coordinated, and outcome-oriented capital investment planning.

These intentions from the legislature and the administration are very positive and consistent with the types of strategic planning tools used by best-practice governments to help policy makers set investment priorities and coordinate cross-sector investments.

An important aspect of prioritizing is to align infrastructure service outcomes with strategic objectives. For example, to achieve the following outcome target of providing every Californian with access to safe drinking water 24 hours a day, 7 days a week, the State needs to invest in a set of specific water supply infrastructure projects and programs. In addition, visioning and strategic planning can play an important role in ensuring that cross-sector investments create maximum synergies. Moreover, strategic planning can also help in the identification of infrastructure bottlenecks, where relatively small amounts of investment would create high net social, economic, and environmental returns.

With priorities in place, the next step of the CII is to determine which critical infrastructure services are necessary to achieve goals and objectives. Can services be met through adjustments and/or enhancements to existing facilities and services? For example, can mobility goals be met by using technology to improve traffic flows on highways? Can demand for higher education be met through year-round operation of colleges and universities? AB 1473 provides the legal and administrative framework for the preparation of capital investment plans. In addition, much of the groundwork has been established in the Performance and Results Act of 1993 (Section 11800 of the Government Code), which calls for using strategic planning to improve the quality and effectiveness of government services. Reform activities began in 1994-1995, when the Department of Finance developed a performance budgeting pilot project. That project called for the development of agency strategic plans and outcome measures as well as productivity benchmarks to measure progress toward strategic goals (Dowall & Whittington, 2003, pp. 96-97).

In pursuing an outcomes-oriented approach to infrastructure service provision, governments gain the ability to explore multiple approaches to deliver desired outcomes, including noncapital investment alternatives. This process of determining the most effective means to meet stated goals naturally succeeds a visioning process, which defines such goals. Moreover, it often leads to identification of more efficient and cost-effective means to reach desired outcomes (Dowall & Whittington, 2003).

Prior to proposing that new facilities be constructed, the CII would require or encourage project proponents to explore the full range of options for meeting service provision outcome targets. These evaluations would then be used to help set investment and program delivery activities.

To offer support for this initiative, we briefly outline examples of strategy-driven priority setting and project identification successfully taking place elsewhere. Canada, for example, prepared a long-term strategic economic plan referred to as Advantage Canada. Developed and launched in 2006, the plan outlines several priority areas the government will focus on in the years ahead, including

> a Tax advantage (lower, more competitive rates); a Fiscal advantage (reduce and eliminate debt); an Entrepreneurial advantage (lower taxes, less red tape); a Knowledge advantage (highly-educated and trained knowledge workforce); and finally, an Infrastructure advantage—to ensure the seamless flow of people, goods and services. (*Building Canada*, 2007, p. 2)

As part of its implementation program, the Government of Canada developed an infrastructure program called Building Canada. Building Canada is a comprehensive, long-term infrastructure planning and development initiative that provides a framework for the federal government to manage and coordinate federal investments and collaborate with provinces, territories, and municipalities to meet the stated goals of supporting the well-being of Canadians and competing internationally. By creating a framework for multitier government collaboration, Building Canada aims to address local and regional infrastructure needs while advancing national priorities that are important to all Canadians (*Building Canada*, 2007). The initiative was launched in 2007 and will span a 7-year period.

The scope of Building Canada is multifaceted. Through a series of new and existing programs, it carries out the following functions:

- provides a new structure for federal coordination and funding of provincial and local level projects;
- supports capacity building, long-term planning, and research to increase the knowledge-based around infrastructure development and provision at the provincial and local levels; and
- facilitates and supports a range of project financing mechanisms at every level.

To realize the Canadian government's long-term vision and strategy, Building Canada will program and deploy 33 billion Canadian dollars over 7 years. To create Building Canada, the federal government met with leadership from provinces, territories, and the municipal sector to discuss and design the plan (*Building Canada*, 2007).

At the provincial level, British Columbia has prepared a strategic plan that sets an overarching vision, goals, and priority actions for the province over a 10-year period. The plan guides the work of ministries and crown agencies involved in infrastructure provision and sets out performance measures and targets for assessing progress toward the overarching vision. The plan is as follows:

- it is designed to help government and its partners focus work on common goals;
- it establishes a framework for the government to continually evaluate progress; and
- it facilitates finding new ways to partner with other levels of government, communities, and the official opposition to further progress toward the vision for British Columbia.

The strategic plan is updated and published annually as part of the government's "continuing commitment to accountability, openness and integrity" (*British Columbia Strategic Plan*, 2006, p. 5).

British Columbia's plan reflects explicit core values, including the following: integrity, to make decisions in a manner that is consistent, professional, fair, transparent, and balanced; fiscal responsibility, to implement affordable public policies; accountability, to enhance efficiency, effectiveness, and the credibility of government; respect, to treat all citizens equitably, compassionately, and respectfully; and choice, to afford citizens the opportunity to exercise self-determination.

The plan aims at achieving five "great goals" (*British Columbia Strategic Plan*, 2006, p. 8):

1. Make British Columbia the best-educated, most literate jurisdiction on the continent
2. Lead the way in North America in healthy living and physical fitness
3. Build the best system of support in Canada for persons with disabilities, those with special needs, children at risk, and seniors
4. Lead the world in sustainable environmental management, with the best air and water quality, and the best fisheries management, bar none
5. Create more jobs per capita than anywhere else in Canada

The structure of the Strategic Plan is such that these five great goals drive policy and investment decisions. For each goal, a chapter of the plan is dedicated to explaining the importance of pursuing the stated goal; identifies key partners (agencies across government levels, institutions, and potential private–sector partners); lists initiatives that are already under way; states priority actions; and identifies key performance measurement metrics and targets to measure progress over time. The performance measures and targets listed for each goal are intended to gauge success and guide long-term strategic planning. They are complemented by the performance measures in ministry and Crown agency service plans (*British Columbia Strategic Plan*, 2006, p. 9).

The plan explicitly states that the priority areas and performance measurement metrics will drive investment and policy decisions, though details of their implementation are not included in the plan and must be sought out in the service plans and annual service plan reports of sector-specific ministries and Crown agencies.

The Australian states of Victoria and NSW, the city of New York, and the state of Washington lead by example in demonstrating how visioning processes can drive initiatives to improve service delivery over the long term. Recently, all have launched processes that engage constituents to define the baseline for service provision on which a comprehensive infrastructure plan is developed. These processes have delivered significant benefits in structuring service delivery improvement initiatives, including the following:

- serving as the process for defining goals for service delivery,
- ensuring a consumer-based service delivery system by engaging a diverse range of constituents,
- creating the framework for setting investment priorities and balancing competing investment needs across sectors,
- providing a natural framework for measuring performance and accountability, and
- earning broad-based public support and responding to public concerns early on.

Whereas visioning has served as a critical first step in developing and implementing infrastructure improvement initiatives in all three places, each province, city, and state has carefully crafted the visioning process to inform its larger program for improving infrastructure and service delivery. In the Australian state of Victoria, the government worked with constituents in 2001 to develop a broad vision for the future of the state. The vision, crystallized in a plan called Growing Victoria Together (GVT), offers a broad framework to guide government planning and decision making over a 10-year period. It spells out 10 broad economic, social, and environmental goals for Victoria. Each goal is matched with a set of clearly defined "progress measures" to guide the direction of government policy and action, inform the annual budgeting process and long-term capital investment plan, and provide the means for tracking progress to 2010 and beyond (*GVT: Innovative State*, 2001).

Citizen involvement lies at the heart of GVT, both in shaping the plan and in ensuring its long-term success. In 2001, the Victorian government reached out to constituents by directing provincial ministers to lead discussions with community and stakeholder organizations and by establishing an interactive Web site to enable individuals to comment online. Both avenues for participation asked the public to comment on an initial draft of GVT. The government then used feedback to refine Victoria's goals and progress measures in a working document and elicit support for the effort (*GVT: A Vision for Victoria*, 2005).

Building off of Victoria's example, the government of NSW, Australia launched the New South Wales State Plan (NSW State Plan) in 2006 to guide the delivery of government services and public administration over a 10-year period. The plan marked a new direction for service provision that explicitly spelled out 14 long-term social, economic, and environmental goals for the province; 34 priority areas for action; and 60 specific, measurable targets to judge progress. Collectively, the set of newly established measurable targets drive the government's decision-making process around service provision, budgeting, and program and capital investment planning; set standards for service delivery; and provide a means for measuring progress. Like Victoria's GVT, the NSW State Plan was designed around an extensive community consultation process (*NSW State Plan*, 2006).

Like Victoria and NSW, New York City and Washington State also launched visioning processes to guide infrastructure policy and planning, however, through distinct approaches. In 2007, New York City launched PlaNYC 2030, a long-range, strategic visioning and planning process to achieve the city's environmental goals, to accommodate projected population growth, and to adapt the city's infrastructure systems to climate change. PlaNYC acts as an agent to guide, coordinate, and implement policy, planning, and investment decisions over a 30-year period across all sectors. Unlike Victoria and NSW, New York City developed PlaNYC through the input of a newly established Sustainability Advisory Board in addition to a public consultation

Box 1
Best Practices—Visioning: PlaNYC: New York City's Long-Term Plan for Sustainability

In 2007, New York City launched PlaNYC 2030, a long-range, comprehensive, and strategic planning process to achieve the city's vision for sustainability, accommodate projected population growth, and adapt the city's infrastructure to climate change through a coordinated policy and infrastructure planning effort. PlaNYC was designed to formulate and then implement an overarching vision for the City. It acts as an agent to guide policy, planning, and investment decisions over a 30-year period across all sectors. In doing so, the plan has restructured the direction of every city agency and department in the most significant planning process that the city has undergone since the 1960s.

PlaNYC was informed through three avenues: a public consultation process, agency-led initiatives, and a newly established Sustainability Advisory Board involving outside experts on a range of subjects. The Office of Long-Term Planning and Sustainability serves as the agency responsible for oversight and guidance of this process as well as analysis and synthesis of the gathered input into a coherent and comprehensive plan, signed off by the mayor and his Sustainability Advisory Board.

The public consultation process was a high-profile campaign that was aimed at simultaneously gathering public input and building public awareness and support of the planning effort. Public kiosks were set up, an interactive Web site was established, and meetings with community representatives were held in all five boroughs of New York City. It posed the question "What kind of city should we become?" to the public over a 3-month period. The consultation period elicited thousands of e-mails through the Web site and feedback from more than 1,000 citizens, community leaders, and advocates who participated in organized meetings with community groups, 11 Town Hall meetings, and presentations given around the city. According to the plan, the input received suggested new ideas for consideration and reordered the government's initially proposed priorities.

Source: PlaNYC 2030, 2007; Rothman & HR&A Advisors (personal communication, December 4, 2007).

process. Comprising a diverse range of stakeholders appointed by the mayor, including elected officials, community representatives, environmental groups, and private sector professionals, the Board was instrumental in defining PlaNYC's goals, objectives, and 127 new initiatives. Furthermore, it assists the city and its new Office of Long-Term Planning and Sustainability in identifying highest-priority issues, setting the targets for the City, and selecting the best methods of achieving those goals. See Box 1 for further information about New York City's PlaNYC visioning process (PlaNYC 2030, 2007; The City of New York, 2006).

Finally, Washington State took a similar approach to New York City in that it crafted the visioning process that underlies its Next Washington and Moving Washington Infrastructure Forward Plans through consultation with a select council of stakeholders. In 2006, Washington's governor convened a Global Competitiveness Council in 2006 to make recommendations and develop competitive strategies that form the basis of these strategic plans. The council was chaired by private sector leaders and included participants from a range of industry and economic sectors. The council formed five committees, including infrastructure, marketing, political environment, research and innovation, and skills, aimed at exploring ways to improve economic and workforce development in the state and improve competitiveness in the global economy. It outlined new initiatives for Washington and proposed improvements to the statewide and regional planning processes (*The Next Washington,* 2007).

Unlike the other initiatives, Washington did not engage the public at large in its visioning exercise, demonstrating one example along the spectrum of approaches to visioning that California has at its disposal in developing the CII. This spectrum of options in the visioning process introduces a discussion of the trade-offs associated with public engagement: As the intensity of public engagement increases, the need for a greater level of management and oversight capacity and the expense of public engagement will also likely increase. However, as demonstrated by the examples of Victoria, NSW, and New York City, high levels of public engagement may ensure a more accurate representation of demand for services and provide a stronger foundation for performance-based planning and accountability. Regardless of the selected method, however, Victoria, NSW, New York City, and Washington demonstrate dynamic and compelling examples of how visioning and strategic planning can be used to enhance infrastructure outcomes and performance.

Visioning and strategic planning can, of course, be independently implemented. The method would be relatively straightforward, drawing on chaptered legislation such as AB 1473, AB 32, and AB 857 (*California State Assembly, Comprehensive Plan*, 2001) to develop effective visioning and strategic planning processes. However, complete implementation will require the development of procedures and methods for visioning, identifying strategic goals, and setting of cross-sectors

investment priorities. The Governor's OPR could service as the institutional base for implementing this element, and it could collaborate with the Little Hoover Commission, the LAO, and other appropriate legislative committees.

Frequently, opportunities for achieving greater efficiency and efficacy in infrastructure service provision can be identified through processes to analyze and/or compare various means of providing services. For example, what process can be used to determine whether a given facility should be expanded or a new one built? NSW and New York City provide examples of places that have developed best practices in reaching conclusions on these issues to determine the best course of action with respect to service provision.

Among other features, the NSW State Plan provides a new infrastructure management structure that facilitates long-term and alternative scenarios planning as methods to determine the best option for service delivery. Driven by specific targets, such as "increasing the proportion of students completing year 12 by eight percent by 2016," designated lead ministers under the new management structure are encouraged and have the flexibility to explore a range of scenarios and strategies to meet each target. Furthermore, the new management structure brings together lead ministers and representatives from a range of agencies and departments through regular ministerial council meetings to ensure exploration of the full range of options (*NSW State Plan*, 2006, p. 7).

The NSW State Plan also establishes a rigorous process for analyzing proposals and projects. When a priority area or target requires a new policy development, new legislation or new funding, the lead agency must prepare a financial impact statement and business case for presentation to the Cabinet. The financial impact statement must be signed by the Secretary of Treasury to attest that the financial analysis underpinning the proposal has been conducted with sufficient rigor. Any decision to increase an agency's budget allocation must also be supported by a full business case and an evaluation against the state plan and related priority areas. In requiring these new measures for selection and prioritization, the NSW State Plan promotes rigorous project analysis and evaluation in analyzing potential project methods but enables flexibility in selecting strategies and exploring potential partnership opportunities to meet the established targets (*NSW State Plan*, 2006, p. 146).

Spain offers a second example of a government that used scenarios testing to determine the best course of action for investing in the national transport system. In 2004, the Spanish Ministry of Public Works (Ministerio de Fomento) developed the Strategic Plan for Infrastructure and Transport (PEIT) to address the challenges facing the Spanish transport system and promote a range of economic and social goals. To justify the series of investments and actions that underlie PEIT, the Ministry of Public Works tested three scenarios in the process of debating PEIT against other options. They included the following:

1. Continuation of the status quo: Government would continue its current role in the planning and provision of transport infrastructure services.
2. Environmental-based scenario: Government would make all policy and planning decisions regarding transport in pursuit of environmental goals, according to international (European Union) agreements.
3. PEIT 2020: A process of "progressive approximation" that tries to reach the same objectives of the environmental scenario and guarantees a continual reduction of negative externalities but one that does not put functional risk on the transport and economic systems.

Each scenario was mapped out according to its implied actions, impacts, barriers, and uncertainties, then tested against the established goals and objectives of the planning process. The exercise ultimately provided justification for the establishment and approval of PEIT across government agencies. Though Spain's use of scenario testing did not provide a replicable structure for testing as NSW does, it does provide an example of how the method can be used to make critical decisions with respect to infrastructure policy and investment in the context of competing goals and objectives (*Plan Estratégico*, 2004).

Finally, New York City also provides an example of a government entity that engaged in alternative scenarios planning as a means for achieving the city's goals for sustainability. In constructing PlaNYC 2030, New York City's long-range, comprehensive, and strategic planning process, each agency and department was directed to explore a range of methods for contributing to a 30% reduction in the city's carbon footprint by 2030. The newly established Office of Long-Term Planning and Sustainability coordinated and managed this process, also serving as a vehicle for achieving these goals through cross sector planning. After evaluating all options, the office developed a strategic plan for the city's development over the long-term, built on the most effective and feasible combination of methods (PlaNYC 2030, 2007; The City of New York, 2006).

At the federal level, the U.S. Office of Management and Budget (OMB) and the Government Accountability Office (GAO, formerly the U.S. General Accounting Office) prepared a framework for undertaking this important step in infrastructure service provision in their issuance of the 1997 Capital Programming Guide. A key output of the 1993 Government Performance and Results Act, the Capital Programming Guide provides detailed guidance to federal agencies on planning, budgeting, acquisition, and management of capital assets. The guidance offered in the document ranges from information on linking capital decisions to strategic goals and objectives, to analyzing and ranking potential investments, to making informed decisions based on the full cost and risk of a project (U.S. GAO, 1998).

As a critical step (following the setting of results-oriented goals and objectives and assessing a gap between current stock and desired outcomes), the Capital Programming Guide recommends that federal agencies consider a wide range of alternative approaches to satisfy their needs, including noncapital alternatives, before choosing to purchase or construct facilities or other capital assets. It also suggests that agencies consider options such as meeting objectives through regulation or user fees, using human capital rather than capital assets, and applying grants or other means beyond a direct service provision supported by capital assets. Once a range of alternatives are identified, cost-benefit, risk, or other analyses can be applied to determine the most effective means to meet end goals (U.S. GAO, 2001).

According to a follow-up report concerning the Capital Programming Guide, the Army Corps of Engineers and the Federal Aviation Administration are agencies notable for their efforts to identify noncapital solutions to their investment needs. Additionally, a separate executive summary of the guide highlights an example of an anonymous state that had engaged in such practices successfully (U.S. GAO, 1998, 2001). This example is described in detail in Box 2.

The implementation of this CII element requires effective visioning and strategic planning to set priorities about service delivery and consideration of all options for meeting service outcome targets. Here, the Federal Government Results Act of 1993 and the Governor's California Performance Review CPR of 2004 provide guidance on how this element could be implemented. Implementation of this element would require amendments to the California Government Code sections 11815-17.

Box 2
Best Practices—Determining What Infrastructure Services Are Needed?: U.S. Office of Management and Budget (OMB) and Government Accountability Office's (GAO's) Capital Programming Guide

In 1997, the U.S. OMB and GAO issued a Capital Programming Guide to provide detailed guidance to federal agencies on planning, budgeting, acquisition, and management of capital assets. A key recommendation within the guide called for Federal agencies to engage in exercises to identify and evaluate alternative approaches to meet existing gaps between current and desired capabilities and/or service levels as part of a strategic investment planning process. In 1998, the GAO summarized some of the outcomes of the guide in a document titled "Executive Summary: Leading Practices in Capital Decision-Making." It included descriptions of two anonymous states' successful implementation of such exercises.

In the first example, the Executive Summary discussed a state government's practice of conducting capacity planning studies of state institutions. These studies, which aim to achieve the optimal use of state facilities, evaluate alternatives such as conversion, expansion, and consolidation. Optimal use is achieved by identifying and implementing the best use of existing facilities and identifying the best way to build new quality facilities at the lowest cost.

The state's capacity planning studies target state institutions that experience high growth in capital costs, such as juvenile rehabilitation, and those that serve different classifications of people, such as corrections, where adult inmates are divided into minimum-, medium-, and maximum-security populations. A study conducted for the Department of Corrections concluded that varying needs of the different security populations result in significantly different capital and operating costs. Construction costs for minimum-security facilities average $17,000 per capita, whereas costs for maximum-security facilities that have larger space and higher security requirements average $120,000 per capita. As a result, it found that converting certain medium-security facilities that meet the space and security configuration of maximum-security facilities into maximum-security facilities could result in significant savings when compared with constructing a new facility. As an example, the state converted a 692-bed single-bunked medium-security facility to a maximum-security one for $3 million, whereas new construction costs for a similar facility would have exceeded $70 million.

(continued)

Box 2 (continued)

Medium-security beds were replaced with double-bunked, highly efficient housing units at approximately $50,000 per bed. The study also led to the expansion of minimum-security camps to 400 beds to take advantage of economies of scale and led to the consolidation of smaller women's inmate housing units into larger units to lower the ratio of staff to inmates.

Providing further evidence of the value for money that can be created through such exercises, the summary discusses a second state's experience in assessing noncapital alternatives. It discusses how the state uses information obtained from asset and facility condition assessments to help determine whether existing assets can satisfy its capital needs. After considering whether to demolish and rebuild two of its prisons, the state concluded it was more cost-effective to upgrade the infrastructure of the existing facilities and enhance their useful life. Although funding for improvements amounted to several million dollars, these costs would have been far exceeded by new construction costs.

Source: U.S. General Accounting Office, 1998.

Use Value for Money Calculations to Select Best Delivery Method

Based on the results of Step 1, if new facilities or systems are needed, what are the various options for project delivery? Can the public sector efficiently provide the service? Would it be faster and less expensive for the private sector to deliver the project? How should projects be managed and operated? There are a range of possibilities to consider, including PPPs, outsourcing, leasing, and private-built turnkey arrangements. The objective of this element is to explicitly consider all options and then select the one that delivers the best VFM. Current California law does not require state agencies to consider alternative project delivery options and to subject them to a VFM assessment.

The United Kingdom, Australia, and Canada are leaders in facilitating, implementing, and developing a market for PPPs as an alternative method for delivering infrastructure services.

The United Kingdom offers the most mature model for delivering infrastructure services through nontraditional methods, namely PPPs. In 1992, Her Majesty's Treasury (HM Treasury) established the PFI, a national-level vehicle for facilitating PPPs. It was designed with the intention of opening up opportunities for more private sector involvement in the provision and modernization of public services (HM Treasury, PFI Web site). PFI involves the public sector procuring services to the quality standards it requires, instead of procuring a capital asset or other equipment and then operating it itself. It also entails transferring the risks associated with public service projects to the private sector in part or in full (Allen, 2001, p. 3). As David Thomson, the U.K.'s Treasury Officer states,

> The central concern in taking procurement decisions is as always the achievement of (value for money) VFM. PFI or any other PPP should only be pursued where it delivers VFM, defined as the optimum combination of whole of life cost and quality (or fitness for purpose) of the good or service to meet the user's requirement; and does not always mean choosing the lowest cost option. In order to ensure that consistently good VFM procurement decisions are made, it is important that VFM assessments should take place as early as possible and that Departments ensure there is the flexibility to pursue alternative procurement routes if at any stage PFI/PPP does not offer the best VFM. (Thomson, 2007)

The United Kingdom's VFM is a three-stage assessment that outlines a process to demonstrate evidence that PFI would be a suitable procurement route for a project or service that represents good VFM. At Stage 1, the procuring authority, typically the sponsoring department's central PFI team, undertakes the qualitative and quantitative analysis for programs considered likely to be suitable for procurement through PFI. At Stage 2, the project team conducts more detailed analysis on the individual projects making up the program. This is completed as part of an Outline Business Case that must be submitted for approval. Where these assessments conclude that PFI will deliver VFM, the Stage 3 assessment is then a continuous appraisal until financial close. This stage is to ensure that the conclusions from the previous stages continue to hold given the latest information, including the prevalent market conditions (*PFI: Meeting the Investment Challenge*, 2003, p. 79).

The Office of the Treasury provides guidance for the VFM process. The guidance materials highlight different issues that procuring authorities should consider in establishing what the driving factors for VFM will be in their particular projects. It sets out the process and methodology to be used in considering whether the factors driving VFM will be realized through the use of PFI procurement (*PFI: Meeting the Investment Challenge*, 2003).

At all stages, the emphasis in the guidance is on the following (*VFM Assessment Guidance*, 2006, p. 3):

- Evidence: A robust assessment should be made based on detailed evidence and previous experience. Data should be collected on all projects and used to aid future assessments.
- Early assessment: It is important that appraisals are started early and are undertaken prior to engagement with the market. Late changes to a project are likely to erode VFM.
- Sufficient resourcing and planning: For the VFM drivers to be effective and for overall VFM to be achieved, the procurement needs to be well planned, managed, executed, and transparent, whichever procurement route is chosen. The guidance emphasizes that procuring authorities must ensure that they have sufficient resources to apply to the procurement itself.

Using the United Kingdom's PFI and Partnerships UK programs as models, the Province of Victoria developed Partnerships Victoria as its vehicle for delivering selected infrastructure projects through PPPs (or P3s). The policy focuses on whole-of-life costing and full consideration of project risks, and optimal risk allocation between the public and private sectors. As the first of its kind in Australia, the policy aims to use the innovative skills and abilities of the private sector in a way that is most likely to deliver VFM and improved services to the community. As a result, Victoria leads Australia in establishing a market for PPPs in infrastructure, with projects currently contracted or under way that will create significant assets for Victoria worth approximately $4 billion (*Building One Victoria*, 2005, p. 7).

In Canada, the government established the PPPs, or P3 fund, to develop and facilitate opportunities for public–private partnerships to finance and deliver infrastructure projects throughout Canada as an alternative to traditional government infrastructure procurement. The $1.25 billion fund is geared at expanding infrastructure financing alternatives in Canada, providing incentives to attract investments from the private sector and increase knowledge and expertise in alternative financing (*Building Canada*, 2007, p. 27). Box 3 provides a description of Infrastructure Canada's P3 fund.

This element can be independently implemented. In fact, the governor's initiative for a PBI California is exactly aimed at this element. The PBI proposal made by the governor in his State of the State initiative is to provide the framework for requiring that state agencies consider all means of project delivery.

The Province of Victoria, Australia, and the United Kingdom demonstrate best practices in generating VFM in infrastructure service provision. In Victoria, the government has instituted two programs to ensure the highest value of its investments and services. First, as part of the Building One Victoria Plan, a broad framework created in 2001 to guide government policy, planning, and decision making in Victoria, the government outlined a new, rigorous assessment process for the government to determine appropriate methods for project delivery. A key component of this process is determining which method will generate greatest VFM. To do so, Partnerships Victoria has developed a public sector comparator tool to estimate the cost of the most efficient form of public sector delivery and determine VFM (*Partnerships Victoria Guidance Material*, 2001). See Box 4 for more information on Partnerships Victoria.

Box 3
Best Practices—Choose the Best Method of Project Delivery: Infrastructure Canada's P3 Fund

The PPPs or P3 fund is a flagship program of Building Canada, Canada's comprehensive, long-term infrastructure planning and development initiative that provides a framework for the federal government to manage and coordinate federal investments and collaborate with provinces, territories, and municipalities to meet the stated goals of supporting the well-being of Canadians and competing internationally. Managed by Infrastructure Canada, the P3 fund was established to develop and facilitate opportunities for public–private partnerships to finance and deliver infrastructure projects throughout Canada as an alternative to traditional government infrastructure procurement. The $1.25 billion fund is geared at expanding infrastructure financing alternatives in Canada, providing incentives to attract investments from the private sector, and increasing knowledge and expertise in alternative financing.

To complement the establishment of the P3 fund, the government of Canada has committed $25 million over 5 years to establish a Federal P3 Office. The P3 Office will facilitate a broader use of P3s in Canadian infrastructure projects, including identification of P3 opportunities at the federal level.

The Building Canada plan further encourages the development and use of P3 best practices by requiring that P3s be given consideration in larger infrastructure projects financed through other newly established infrastructure funds, including the Gateways and Border Crossings Fund and the Building Canada Fund. Specifically, all projects seeking $50 million or more in federal contributions will be required to assess and consider the viability of a P3 option.

Source: *Building Canada*, 2007.

Box 4
Best Practices—Generating Value for Money (VFM): Partnerships Victoria

Partnerships Victoria is a state government framework to facilitate public–private partnerships (PPPs). It aims to achieve VFM by using the innovation capabilities and skills of both the public and private sectors to deliver performance improvements and efficiency savings. The initiative focuses on whole-of-life costing, full consideration of project risks, and optimal risk allocation between the public and private sectors. It offers a structured approach to VFM assessment and protects the public interest through a formal public interest test and the retention of "core" public services. Since 2002-2003, Partnerships Victoria projects have accounted for approximately 10% of annual public asset investment commitments.

The initiative is designed for complex capital projects with opportunities for innovation and risk transfer. It applies to all government-led projects in which the present value of payments to be made by the government (and/or by consumers of a service) will exceed $10 million during the partnership period.

To determine which projects should use this framework, Partnerships Victoria establishes a rigorous examination process for consideration and approval. The principal criterion for pursuing a PPP as a method for delivery is whether it is likely to deliver better VFM than traditional methods. To determine this, the government developed a Public Sector Comparator tool to estimate the cost of the most efficient form of public sector delivery and test for VFM. Additionally, to seek expressions of interest, the government must demonstrate the potential for private parties to add value, including providing evidence of the capacity of private parties to better manage particular risks, benefits of competition, or particular management or operational efficiencies that may be gained. Departments and agencies are also required to gauge market interest by various means, such as preliminary discussions with a sample of industry practitioners.

In addition to the VFM test, the examination process also evaluates costs, risk, and social and economic dimensions. Prior to a decision to commit to major infrastructure projects, the Government must prepare a full cost–benefit analysis of the potential project, including the value of public land; receive independent verification of financing arrangements; and undergo a full assessment of risk. Projects are also assessed against a rigorous public interest test to examine potential impacts on privacy, security, consumer rights, public access, and equity. To ensure protection of the public interest while partnerships are in progress, work is awarded to private contractors through a public tender process under which there are clear and enforceable performance arrangements. In all developments, the government aims to protect the public interest through strong third-party rights, fair appeals processes, effective conflict resolution, and transparency.

Sources: State Government of Victoria, 2008; Partnerships Victoria, 2000.

Second, the government developed a process for assessing the efficiency of proposed and/or existing projects through the Gateway Initiative. The Gateway Initiative was introduced in 2003 to reduce the risk of project cost and time overruns, to ensure alignment of projects with strategic objectives, and to better coordinate initiatives across all areas of government. The initiative encompasses the following:

- a process to independently review key projects at critical stages;
- the use of project life-cycle guidance material such as business case guidance; and
- enhanced asset investment reporting.

Although the Gateway Initiative has since been rebranded and devolved into four distinct programs, the programs collectively continue to provide these services to the Victorian government (Government of Victoria, Gateway Initiative Web site). For more information on Victoria's Gateway Initiative see Box 5.

Similarly to Victoria, the United Kingdom has developed a VFM assessment tool and guidance materials as part of the PFI to assess where public–private partnerships may be more appropriate than conventional methods of service delivery.

Certainly, trying to choose the best method of project delivery is a significant step toward ensuring VFM; however, the process of ensuring VFM should be an ongoing process at all stages of government procurement, management, and operation. Some countries explicitly require the pursuit of VFM by requiring VFM audits. However, one important caveat is necessary: When PPP or complex alternative procurements are used, agencies need to use adequate safeguards to ensure that they get what they are paying for (Sclar, 2000). California does not have legislation in place that explicitly requires VFM audits or assessments of alternative infrastructure procurement methods.

The CII initiative would provide the vehicle to provide such assessment. As a platform for exploring alternatives,

Box 5
Best Practices—Provide Technical and Policy Assistance: Victoria's Gateway Initiative

The Gateway Initiative is the State of Victoria's program to improve selection, management, and investment delivery. It is administered by the Department of Treasury and Finance to assist with the implementation of major infrastructure projects and frameworks and influence decisions made by the government on major contractual arrangements across the state. Formerly under a single brand, the initiative now accomplishes its goals through three distinct programs, including the Gateway Reviews and Best Practice Guidance, Lifecycle Guidance, and a Multi-Year Strategy (MYS).

The Reviews and Best Practice Guidance program provides support to departments in the development and implementation of asset investment projects and programs. It is structured to help Government Departments and Agencies ensure that their investment is well spent, meets business and government's strategic objectives, and achieves value-for-money outcomes.

Modeled after a similar program in the United Kingdom, Gateway Reviews are best-practice reviews that provide targeted feedback at key decision points during a project or program's life cycle. Key decision points or gateways are points in the investment life cycle that are critical to shaping investments and delivering greater value for money. Gateways are identified via an Investment Management Standard developed for this purpose. An independent team reviews the project at each gateway to describe how an investor can shape, monitor, control, and evaluate an investment. The process can be applied to high- or medium-risk projects that procure services or change management, or for any procurement using contracts.

Complementarily, the Lifecycle Guidance program provides supportive materials and tools for government and its partners to establish a consistent, best-practice approach to infrastructure investment throughout the project's life cycle. Specifically, the guidance material provides a benchmark for entities outside of the public sector. It is intended to facilitate development of consistent business cases for all asset-related proposals and specifically for all proposals to be delivered under Partnerships Victoria, the government's framework for the provision of public infrastructure and services through public–private partnerships.

Finally, the Gateway Reviews and Best Practice Guidance and Lifecycle Guidance programs work in tandem with the MYS. MYS provides a long-term outlook on asset proposals deemed necessary to meet government requirements. It serves as the listing of asset

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Box 5 (continued)

and nonasset proposals that best satisfy government requirements over a 10-year horizon. It represents all potential proposals in a department's short-term planning pipeline and all significant and major proposals emerging in the medium and longer term. It is a key tool to contribute to "joined-up Government" planning and important for effective forward planning and strategic purchasing decisions. MYS core functions include informing resource allocation and priority setting, presenting context and key information for each investment proposal, indicating the alignment of these proposals to government objectives, enabling government to assess medium-term asset investment priorities, presenting a long-term view of departmental asset investment strategy and delivery, and facilitating investment selection and timing for Gateway Reviews.

Since 2003, 46 projects worth in excess of AU $6.5 billion have been subject to reviews under the Gateway Initiative and its component programs. It has produced savings of up to 5% in asset management. It is expected to deliver substantial improvement in asset investment outcomes across government levels in the near future.

Source: State Government of Victoria, 2007.

CII would provide the framework to assess the potential value and viability of delivering any number of California's infrastructure projects through design-build against traditional and other alternative methods. Furthermore, it would assist in focusing goals and investment priorities and in facilitating implementation to ensure VFM throughout the investment planning process. VFM assessments could be independently initiated by the State of California through legislation and or changes to the State Administrative Manual (Newman & Whittington, 2000).

Create a Center of Excellence to Share Knowledge and Advise State and Local Governments

To provide the technical and policy leadership, the CII will need to provide ongoing support to state and local agencies interested in achieving the benefits of CII. The state should consider formulating a CII office to provide technical and policy assistance to support the implementation of CII elements. It would explain how agencies and local governments can use visioning and strategic planning, identify critical infrastructure service outcomes, decide on efficient project delivery options, assess VFM performance, use demand aggregation to

lower costs, and negotiate complex forms of project procurement. The overarching objective of such a unit would be to build management capacity by working with state agencies and local governments to provide technical assistance and support across all stages of the CII.

Comprehensive programs to provide assistance to build capacity are invaluable elements of the most successful initiatives to improve service delivery, including the United Kingdom's Partnerships UK, Canada's Building Canada, and Partnerships Victoria programs.

The United Kingdom offers a sound model for providing technical assistance, specifically in the implementation of its PFI under Partnerships UK. Among other functions, Partnerships UK offers technical assistance to public sector partners in the processes of determining and executing PPPs (or P3s). Additionally, it offers formal training to equip those involved in the process with the technical skills and knowledge base to launch, manage, and evaluate PPPs (P3s) on an ongoing basis as the federal-level program continues to expand. Box 6 provides a description of Victoria's Gateway Initiative, a program to improve technical capacity in the selection, management, and delivery of infrastructure investments.

The provision of technical assistance and building management capacity should be implemented together with the formation of a PBI institution within the administration. It should be structured and staffed to provide support across all elements of the CII.

Propagating best-practice results requires disseminating successful experiences and methods. This can be carried out by the PBI California proposal through the formation of a PBI California Agency. There are several useful examples of how this can be done.

The United Kingdom has in place several structures to coordinate dissemination of best practices across all its programs and sectors involved with service delivery. Two structures are particularly geared toward this task. First, the government has created Departmental Private Finance Units that act as the agent responsible for the implementation of PFI policy within each specific department of government. They have been structured to disseminate best practice and implementation support to procuring authorities, provide strategic management of the department's portfolio of PFI projects, serve as centers of expertise on PFI policy, and where appropriate, manage PFI credits for local authority projects (*PFI: Strengthening Long-Term Partnerships*, 2006, p. 106).

Second, the government established the PFI Operational Taskforce in 2006 to provide greater guidance and assistance to the public sector in managing operational PFI projects, including through knowledge transfer of best practices. Based in Partnerships UK, it serves as a small unit acting on behalf of the Treasury and works with Departmental Private Finance Units, departments, local authorities, and advisory bodies to provide proactive support to public sector project managers on key operational issues. Members of the taskforce offer a range of skills relating to financial, legal, and operational management. Its main functions include

- monitoring and maintaining a record of issues raised by the public sector and liaising with Departmental Private Finance Units to ensure that best-practice information is widely disseminated;
- providing a help desk facility specifically resourced to help public sector managers on operational issues;
- developing specific guidance for the public sector on issues such as benchmarking, improving the transition to the operational phase of projects, and others;
- coordinating a pilot scheme of operational reviews of PFI projects with the primary aim of providing forward-looking advice to project teams to improve performance; they involve detailed discussions with both public and private sector partners; and
- gathering information from market participants on trends in relation to issues that have been raised by the public sector and using this to inform guidance and best practice.

The taskforce will also be used to respond to any instances of contractor difficulties and provide advice and guidance to the public sector on specific problems. It will gather information across PFI sectors on any potential issues that may give early warning of contractor difficulties. Some of the services available through the taskforce, such as the help desk, are free, whereas procuring authorities pay for detailed work (*PFI: Strengthening Long-Term Partnerships*, 2006, p. 106). See Box 6 for more information on Partnerships UK.

Victoria's Lifecycle Guidance program—part of the province's Gateway Initiative—also provides an example of a government's approach to supporting improved service delivery mechanisms by disseminating best-practice knowledge. Modeled after the United Kingdom's example, the Lifecycle Guidance program provides supportive materials and tools for government and its partners to establish a consistent, best-practice approach to infrastructure investment throughout the project's life cycle (State Government of Victoria, Department of Treasury and Finance, 2008).

Box 6
Best Practices—Sharing Knowledge: Partnerships UK

Partnerships UK was set up by the government of the United Kingdom in 2000 to support the public sector in the development of new methods of service delivery and procurement. The Private Finance Initiative (PFI) is a small but important part of this larger strategy for delivering high-quality public services. It is focused on providing a framework for determining, facilitating, and implementing public–private partnerships as a means to maximize public benefits by leveraging private sector investments.

To facilitate the complex method of project delivery that it supports, the government has created an Operational Taskforce, based in Partnerships UK. The taskforce has a help desk to provide free expert advice and support to public sector partners within operational PFI projects. It assists in providing support for public sector PFI contract managers in achieving value for money through benchmarking and market testing of soft services, providing support for project and contract managers in transition from procurement to operation, and guidance for public sector authorities with PFI contracts in developing a voluntary protocol for managing variations during the operational phase of their PFI projects.

Additionally, Partnerships UK launched a formal training program in 2007 to support public sector procurement and contract management teams in the implementation of PFI. Run by Price Waterhouse Coopers, the course is aimed at providing the public sector with the impetus to build on their own skills in managing operational projects, thereby building operational capacity across government levels. The course will be delivered by skilled trainers, experienced contract managers, and procurement practitioners. It will assist in facilitating key phases in managing PFI contracts; providing advise on resolving major issues arising in operational contracts; assisting in project management, commercial, and negotiating skills; and disseminating previous case studies and best practices, including monitoring tools and methodologies, change control and benchmarking, and benefits realization.

With more than 500 PFI projects now in operation under PFI, the government aims to build on the contract management skills of the public sector by providing formalized training through this program.

Source: Her Majesty's Treasury,; *PFI: Strengthening Long-Term Partnerships*, 2006; Partnerships UK, 2007.

Implementation of this element, obviously makes sense only as a collateral activity of implementing other aspects of the CII. Again, this can be accomplished through the PBI California proposal or through other institutions.

Provide Service Bureau to Perform PPP Procurements on Behalf of State and Local Government Agencies

The CII should provide support to state agencies and local governments to help them effectively negotiate complex procurement contracts. This is not now offered, and it is seen by the Governor's Office as an element of the PBI California proposal. Several best-practice examples exist to illustrate how negotiation support is offered.

For example, Infrastructure Ontario, launched in 2006, is a comprehensive, long-term infrastructure planning and development initiative that provides a framework to manage the provision of infrastructure projects (see http://www.infrastructureontario.ca/).

Infrastructure Canada, a federal institution, provides a focal point for the Government of Canada on infrastructure issues and programs. It was established in 2002 to lead the federal government's effort to address the infrastructure challenges of Canadian cities, communities, and regions through research, policies, and funding programs. Since then, the organization has become a center of expertise for infrastructure management. In February 2006, Infrastructure Canada was restructured under the new portfolio of Transport, Infrastructure, and Communities (Government of Canada, Transport, Infrastructure and Communities Portfolio, 2008). Several other provinces, such as British Columbia, provide technical support to local governments.

One important area where the CII could help local governments and state agencies is to look for opportunities for cost and procurement savings through demand aggregation. Demand aggregation has the potential to lower infrastructure service costs in several ways. First, by bundling the purchase of infrastructure facilities, equipment, and services, purchase costs can be reduced through volume-related discounts. Second, project delivery cost can be reduced simply by reducing transaction costs—the costs of searching for providers, evaluating bids, and negotiating contracts. In California, demand aggregation is practiced but not to the fullest extent possible. If an entity such as the PBI California were to be created, it could expand the application of demand management across state agencies as well as promote it at the local and regional levels.

Whereas alternative methods of service delivery such as PPPs have great potential for adding value to the process, the system for applying such methods may vary across project types and sectors. The British experience

has demonstrated the advantages of demand aggregation, often referred to as bundling, as a means for optimizing a range of alternative procurement models. In 2003, the U.K. Department of the Treasury introduced a system of bundling together smaller projects where there was no obvious centralized procuring authority. Once projects are bundled, the department brings in PFI experts early in the procurement process to match the bundles with a range of alternative procurement models that are applicable and valuable only on a larger scale.

The impetus for this new system came from evidence that the PFI had failed to deliver expected benefits on small projects. In a 2003 report, the treasury said that such projects frequently offer poor VFM because of high pretransaction costs relative to their overall value. However, "where small individual projects are bundled together . . . VFM can be secured through increased efficiencies in procurement"(*PFI: Meeting the Investment Challenge*, 2003, p. 8). Additionally, it reported that bundling projects together offers the benefit of increasing the involvement of PFI experts in the procurement process from the earliest stages through to the operational phase of projects and ensures that the timing of projects maximizes market interest.

Since the introduction of bundling, several projects have been executed via alternative methods of delivery that would have otherwise not been possible. The education and health care sectors in particular have benefited from these arrangements. For more information on such projects, see Box 7 on demand aggregation in the United Kingdom.

Demand aggregation could be independently implemented without the development of the other CII elements and could achieve cost savings. However, to facilitate and encourage demand aggregation, an institution or agency will be needed. Here, the scope of the agency could be limited to aggregating demand or it could be expanded to include the provision of other CII elements.

Implementing the CII

Fortunately, the Governor's Office and the legislature have taken a number of important steps to lay the groundwork for implementing the CII. First, in 2002, the legislature passed Assembly Bill 1473, requiring the administration to prepare a 5-year state infrastructure plan. State level infrastructure investment plans have been prepared, although they do not appear to be outcomes or performance based. However, the mechanism of an annual 5-year reporting process can serve as a basis

Box 7
Best Practices—Demand Aggregation: the British Schools

In 2003, the United Kingdom's Department of Treasury introduced demand aggregation, or bundling, as a means to enable groupings of small, analogous projects to benefit from the Private Finance Initiative (PFI). Under the system, small projects where there is no obvious centralized procuring authority are bundled together and matched with a range of procurement models that generate value when applied to large-scale projects. A 2003 report on PFI, titled "PFI: Meeting the Investment Challenge," discusses this system and outlines examples of its implementation. Two such examples in the education sector are described below.

The use of demand aggregation on behalf of the Church of England (CoFE) Schools provides an excellent example. In 2003, the school system comprised approximately 2,000 schools with an aggregate investment need of £1.5 billion over 10 years. As small primary schools with a new-build capital cost of £2 million, each lacked the procurement experience to access the flow of investment available through PFI.

To address this challenge, the system of demand aggregation was used to manage a program of centrally procured schemes, each covering a grouping of CoFE schools. Partnerships for Church of England Schools (PfCS), a joint venture between CoFE and Partnerships UK was established to scope, develop, and procure private sector partners for geographically coherent groups of schools. PfCS was undertaken in 13 schemes in three phases over 3 years. In each scheme, a local partnership was established, under which the future investment requirements could be delivered efficiently. Each local partnership required an investment program of approximately £40 million over 3 years. The system enabled CoFE schools to reap the potential benefits of PFI in terms of on-time, on-budget delivery and whole-of-life design and costing in a sector where without bundling it would not be economic to use PFI.

Similar to the CoFE experience, the British government leveraged demand aggregation in a renewal and rebuilding program called Building Schools for the Future to ensure that all secondary schools in England have facilities to 21st century standards. In 2003, the government committed approximately £2 billion of £5 billion a year for capital investment in schools through Local Education Authorities (LEAs) over a 10 to 15 year period.

Building Schools for the Future enabled the Department for Children, Schools and Families (DfES) to work with Partnerships UK and 4Ps to develop a new national body to

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Box 7 (continued)

manage its program of PFI and conventional investment in secondary schools and to work with LEAs on solutions to meet their unique needs. It offered a way to increase procurement skills and reduce procurement costs and delays in the schools sector and ensure that the expertise is in place to identify where PFI can offer value for money and where conventional procurement will provide the better option. The arrangement provided much greater support to LEAs in negotiating terms for large-scale investment, reducing the procurement burden on local authorities while helping them realize their local vision and strategies.

Source: *PFI: Meeting the Investment Challenge*, 2003.

for the preparation of performance-based plans and programs. Second, in 2002, AB 857 (Chapter 1016 of the Government Code) was chaptered into law requiring that any revision to the State Environmental Goals and Policy Report be reviewed to ensure that the changes are consistent with state planning priorities and would require a state agency that requests infrastructure to specify how that infrastructure is consistent with those priorities. This bill defines those priorities, which relate to infrastructure that supports infill development and redevelopment, cultural and historic resources, environmental and agricultural resources, and efficient development patterns. In 2006, AB 32 on greenhouse gases was signed by the governor and chaptered into California law (chaptered by Secretary of State, Chapter 488, Statutes of 2006), and this law offers strong incentives to develop smart and sustainable infrastructure plans and programs. On the administration's side, the Governor's Office has proposed establishing a Strategic Growth Council to coordinate cross-sector infrastructure investment planning and programming. Finally, the governor has proposed to form a PBI California Initiative to foster performance-based infrastructure planning, project delivery, and management.

Now, the main challenge will be for the administration and the legislature to agree on how to build on existing legislation and adopt and use CII's eight elements to foster efficient and sustainable infrastructure development. Because the details of the composition and work scope of the Strategic Growth Council and the PBI California proposal are not fully developed, it would be possible for the administration and the legislature to collaboratively develop an acceptable model for implementation.

Conclusions

This article has defined a performance- and outcomes-based approach for delivering high-quality and VFM infrastructure services to California citizens and businesses. We have proposed the CII, a policy and implementation framework for improving California infrastructure services. The CII framework is based on four elements:

- setting strategic, programmatic, and capital investment priorities;
- using VFM calculations to select the best delivery method;
- creating centers of excellence to share knowledge and advise state and local governments; and
- providing a service bureau to perform PPP procurements on behalf of state and local government agencies.

We have described how each of these elements would work and how they might be implemented, either individually or comprehensively. We have also demonstrated how these elements are used by other governments in Canada, the United Kingdom, Australia, and Spain as well as in the United States to improve infrastructure planning, provision, and management.

What we are proposing is not radical. CII is more or less a more comprehensive strategy, policy framework, and implementation tool for improving infrastructure planning, provision, and management. The CII builds on existing administrative and legislative initiatives and provides a road map for developing a more sustainable and efficient platform for building California's future. Most important, CII is based on tried and tested methods that have been successfully pioneered elsewhere.

Note

1. This figure is based on California's 5-year infrastructure investment needs assessment. It is not based on rigorous analysis, cross-sectoral rankings, and strategic planning as articulated in the article.

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